DOCUMENT RESUME

ED 245 705 IR 050 777

AUTHOR Trubkin, Loene
TITLE The Information Impact: Ensuring New Product Winners.
PUB DATE Oct 82
NOTE 23p.
PUB TYPE Viewpoints (120) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Business; *Databases; *Information Needs; Information Services; Information Utilization; Marketing; *Online Systems; *Research and Development; Technological Advancement
IDENTIFIERS ABI INFORM; Disclosure II; INSPEC; New York Times Information Bank; Predicasts US Time Series; PROMT Market Abstracts

ABSTRACT

Despite investment in new research tools and techniques, the product development success rate has not improved within the last 25 years. One way to increase the success rate is to have the right information at each stage of the process. Today, a relatively new method of gathering information--online access to electronic files called databases--helps make this job easier than ever before. Although online access cannot answer all the questions, it simplifies what otherwise is time-consuming and difficult. It also expands the range of readily available information. Examples from six databases--Predicasts U.S. Time Series, INSPEC, ABI/INFORM, PROMT Market Abstracts, New York Times Information Bank, and Disclosure II--illustrate the application of online access systems to product development. It is argued that success in product development depends on getting information into the hands of the individuals who can produce winners, and that online access is an important means to this end. The appendix consists of two tables: Selected Online Systems, which provides the system name, principal focus, availability, and address for 10 systems; and Selected Online Databases, which gives the file name, subject, number of entries, source, and systems for nine databases. (DMC)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED245705

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

Minor changes have been made to improve reproduction quality.

Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

The Information Impact: Ensuring New Product Winners

By
Loene Trubkin
President, Data Courier Inc
October 1982

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Leone Trubkin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IR050 777

©1982 Data Courier Inc
No part of this report may be reproduced or reused without the written permission of Data Courier Inc.

The Information Impact: Ensuring New Product Winners

At the Versailles economic summit in June, political leaders were challenged, as the New York Times reported, to "innovate or evaporate." American business already has that message - successful new product development may be the key to survival.

Yet our ability to introduce successful new products has not improved within the last 25 years. In 1957, Booz·Allen & Hamilton reported that one-third of all new products brought to market failed. In 1980, the Conference Board reported, after a similar study, that still one-third of all new products fail. Despite a quarter-century of investment in new research tools and techniques, the product development success rate hasn't improved at all.

How can we shift the balance toward greater success in product development?

One way is to have the right information at each stage of the process. Ideation, development, design, testing, engineering, introduction and marketing - each requires different kinds of information, both internal and external.

Investment in information gathering and analysis allows decisions to be made in the context of past successes and failures, present opportunities and threats, and trends that affect future performance in the marketplace.

Product development professionals need to know, for example:

- Market potential (what segments exist and their size; indications of a separate segment not yet fully tapped)
- Consumer attitudes and behavior (who buys what and why; factors influencing satisfaction)
- Competitive strategies (U.S. and foreign; case studies of winners and losers)
- Sales and marketing innovations (new ways to sell; regulatory constraints; new strategies)
- Changes in technology that affect production and delivery (what machines, systems and applications exist; their availability)
- Implications of major economic and market trends (what is happening in various regions/sectors of the United States, in Western Europe, in Japan)
- Why similar products succeeded or failed (who, why, what, how and when).

This list easily could be extended, but the message is clear: gathering, analyzing and applying the right information helps professionals make better decisions at each step of the product development process and thereby reduces the risk of failure in new product introduction.

Today, a relatively new method of gathering information - online access to electronic files called databases - helps make this job easier than ever before.

What Online Access Offers

Information available through online access is directly applicable to product development. Although online access cannot answer all the questions, it simplifies what otherwise is time-consuming and difficult. It also expands the range of readily available information.

Exhibit I (page 19) provides an overview of selected online systems. These ten are representative of the diversity of offerings in the marketplace. Exhibit II (page 20) highlights the content and availability of some frequently consulted databases. Today, there are more than 1,000 online databases and several hundred online systems companies.

How are these systems and sources used by product development professionals? Visualize, for example, that you manage a product development team at a financial services firm. Your task is to develop new products geared to the new technologies which allow electronic funds transfer. You need lots of questions answered. Among them are:

- What is the availability of equipment for automated transactions?
- How vulnerable are today's systems to technological change?
- How do consumers react to these new services?
- What is the competitive environment?

I chose six databases to help answer these questions, to give you a flavor of the kinds of information that are readily available. Selected results from initial online probes are shown in Tables 1-6.

Table 1 presents the results of an online search in the Predicasts U.S. Time Series file. The aim was to determine the availability of equipment used in automated financial transactions. The data report that from 1972 to 1980, the dollar value of shipments of terminals for special purposes increased from $83.5 million to $317.3 million, an annual growth rate in excess of 16 percent.

Table 1 - PTS U.S. Time Series

239742 Elec Mkt 81/00/00 P46 CIR MA35R 80/02/00
P 3 United States
Special purpose terminals. shipments.

YEAR	MIL $
1971	NA
1972	83.5
1973	114.3
1974	103.1
1975	103.1
1976	217.0
1977	176.5
1978	196.1
1979	255.9
1980	317.3

GROWTH RATE=16.9%
CC=1USA PC=3573280 EC=631

Table 2 shows three citations from a search of the INSPEC database. The objective of this search was to discover the likely directions of technological development. The citations report recent innovations surrounding ATM, including

- Methods to dispense machine readable documents as well as cash, from an IBM technical bulletin
- Use of minicomputers to manage an ATM network at a Canadian bank
- Security aspects of ATMs, as reported at a data encryption conference.

Table 2 - INSPEC

763190 C81033108
AUTOMATIC BANKING MACHINE DISPENSES MACHINE-READABLE DOCUMENTS
SVIGALS, J.
IBM CORP., ARMONK, NY, USA
IBM TECH. DISCLOSURE BULL. (USA) VOL.23, NO.12 5305 MAY 1981 Coden: IBMTAA
Treatment: APPLIC; PRACTICAL
Document Type: JOURNAL PAPER
Languages: ENGLISH
DESCRIBES DISPENSING PRE-ENCODED MAGNETIC STRIPE DOCUMENTS IN PLACE OF ONE DENOMINATION OF BILLS BY AN AUTOMATIC TELLER MACHINE. THE VALUE OF THE MAGNETIC STRIPE DOCUMENT DISPENSED WOULD BE OF A PRERECORDED VALUE AND WOULD THEN BE CHARGED TO THE RECIPIENT'S ACCOUNT BY THE BANK, AVOIDING THE NEED TO HANDLE CASH. ANOTHER APPLICATION FOR AN AUTOMATIC TELLER MACHINE WHICH ISSUES MAGNETIC STRIPE DOCUMENTS IS TO ISSUE TEMPORARY CREDIT CARDS TO NEW CUSTOMERS FOR USE DURING THAT INTERVAL UNTIL THEIR PERMANENT CREDIT CARDS ARE RECEIVED BY MAIL.
Descriptors: BANK DATA PROCESSING
Identifiers: AUTOMATIC BANKING MACHINE; PRE-ENCODED MAGNETIC STRIPE DOCUMENTS; AUTOMATIC TELLER MACHINE; CREDIT CARDS
Class Codes: C7120

•
•
•

514506 C80016497
MINI-MANAGED ATM NETWORK STREAMLINES BANK'S OPERATIONS
LOGAN, D.J.; MIRANDA, J.B.
COMPUT. DATA (CANADA) VOL.4, NO.11 44-5 NOV. 1979 Coden: CODAD4
Treatment: APPLIC; ECONOMIC ASPECTS; PRACTICAL
Document Type: JOURNAL PAPER
Languages: ENGLISH
SURROUNDED BY IBM 303X, 370 AND AMDAHL PROCESSORS, A POWERFUL MINICOMPUTER SYSTEM IS THE NEW-

EST ON-LINE BANKING ADDITION TO THE BANK OF MONTREAL'S COMPUTING COMPLEX IN TORONTO. THE DEDICATED PURPOSE OF THE SYSTEM IS TO MANAGE THE BANK'S GROWING NETWORK OF AUTOMATIC TELLER MACHINES (ATMS).
Descriptors: BANK DATA PROCESSING
Identifiers: MINICOMPUTER SYSTEM; BANKING; BANK OF MONTREAL; NETWORK; AUTOMATIC TELLER MACHINES; ONLINE
Class Codes: C7120

•
•
•

233923 C78020828
ELECTRONIC FUNDS TRANSFER APPLICATION
MCDONNELL, J.
EFT COMMISSION, WASHINGTON, DC, USA
SPONSOR: NAT. BUR. STANDARDS
PROCEEDINGS OF THE CONFERENCE ON COMPUTER SECURITY AND THE DATA ENCRYPTION STANDARD 80-2 1978
15 FEB. 1977 GAITHERSBURG, MD, USA
Publ: NAT. BUR. STANDARDS, WASHINGTON, DC, USA
VIII+125 pp.
Treatment: ECONOMIC ASPECTS; GENERAL,REVIEW
Document Type: CONFERENCE PAPER
Languages: ENGLISH
THE AUTHOR DISCUSSES SECURITY ASPECTS OF ELECTRONIC FUNDS TRANSFER SYSTEMS (EFTS). THERE ARE THREE MAIN AREAS OF EFT. THE FIRST IS A LOW-VOLUME, HIGH-DOLLAR TRANSACTION SYSTEM TYPIFIED BY THE FEDWIRE SYSTEM. THE SECOND IS THE SYSTEM TYPICALLY CALLED THE AUTOMATED CLEARING HOUSE, WHICH PRIMARILY USES MAGNETIC TAPE TO TRANSFER MONEY. THE THIRD IS THE ONE THE AUTHOR DISCUSSES. IT INCORPORATES AUTOMATIC CASH ISSUING TERMINALS, POINT OF SALE TERMINALS AND AUTOMATIC TELLER MACHINES.
Descriptors: EFTS; SECURITY OF DATA
Identifiers: ELECTRONIC FUNDS TRANSFER SYSTEMS; AUTOMATIC CASH ISSUING TERMINALS; POINT OF SALE TERMINALS; AUTOMATIC TELLER MACHINES; EFTS; DATA SECURITY
Class Codes: C7120; C6130

In Table 3, the focus shifts to consumer attitudes, with a search of the ABI/INFORM business and management database. These three citations reveal that financial services markets are receptive to innovation. Moreover, they provide baseline data from consumer studies that already have been conducted.

- The first citation covers a study of 450 individuals in three cities – both users and non-users of ATMs.

- The second citation summarizes a 1980 SRI study of consumer demand for financial services.
- The third reports on an ABA speech which covers consumer acceptance and growth rates for various forms of automated financial services.

Table 3 - ABI/INFORM

82005673 ID No: 82005673
Consumer Acceptance of ATMs
Kutler, Jeffrey
Credit v8n1 24-25 Jan/Feb 1982 ISSN 0097-8345 Jrnl Code: CRE
Availability: ABI/INFORM
Doc Type: JOURNAL PAPER
Automated teller machines (ATMs) were introduced in the late 1960s. Consumer acceptance was slow at first but has accelerated over recent years as the number of installations has grown. A survey of 450 individuals (both users and non-users) in 3 cities where ATM services have been available for several years indicated that ATMs are valuable to financial institutions as a service-delivery vehicle, and also as a means to attract new customers. Respondents were positive on ATMs, stressing that they liked the convenience. Most users had not experienced problems with using the machines. Respondents were less enthusiastic about the idea of ATMs handling routine monthly bills without the use of checks. Similarly, respondents were less positive about the use of ATMs in drive-up teller lines and in lobbies in lieu of live tellers.
Descriptors: Automated teller machines; Consumer attitudes; Attitude surveys

•
•
•

81019391 ID No: 81019391
Understanding the Financial Institution Customer
Casey, Barbara E.
Federal Home Loan Bank Board Jrnl v14n7 62-67 Jul 1981 Coden: JFHLAY Jrnl Code: FHL
Availability: ABI/INFORM
Doc Type: JOURNAL PAPER
SRI International (Menlo Park, California) compiled a comprehensive picture of total household financial relationships based upon data from 2 surveys of 6,000 households in 1978 and 3,000 in 1980. From this it was concluded that competition from a wide range of financial institutions will be intense and will increase. Consumers will decide which institutions flourish by reacting positively to the better products and services they are offered. Finally, savings & loan associations will have many long-run opportunities if they can understand their customers' needs. The survey found that affluent households use 20 sources to meet their needs for 38 financial services while

non-affluent households use 12 sources for 20 services. No one vendor can meet all needs. Relationships with these institutions overlap, are fragmented, and they tend not to be close. Thus, customers are up for grabs. The strongest firms will be those that understand customer needs and meet them before anyone else does. Institutions should segment the market to adopt a long-range competitive stance focused on the customer, not product. Graphs.

Descriptors: Financial institutions; Consumer behavior; Market segmentation; Financial services; Bank services; Market shares

•
•
•

81018037 ID No: 81018037

56% Annual EFT Growth Shows Strong Consumer Acceptance: Lipis

Goldberg, Joan

Bank Systems & Equipment v18n7 33,44 Jul 1981 ISSN 0005-5050 Jrnl Code: BSE

Availability: ABI/INFORM

Doc Type: JOURNAL PAPER

Allen Lipis, president of Electronic Banking, Inc. (EBI), told delegates to the American Bankers Association's National Operations and Automation Conference that a 56% annual growth in electronic funds transfer (EFT) since January 1979 is indicative of consumer acceptance of electronic banking. Lipis based his figures on EBI's second published index which tracked EFT usage from January 1979 to July 1980 among 40 banks and 12 thrifts. In the period studied, automated teller machines (ATMs) and telephone bill paying (TBP) showed the most growth. Most of the major banks in major cities have ATMs. Off-premise growth rate of ATMs surpassed on-site growth rate, which shows that banks are using the ATMs as electronic branches. During the period that was studied, TBP went from the experimentation stage to generic service. TBP is growing at an annual rate of 32%. Still, TBP has some important problems that must be overcome, such as extensive investment in people and extensive paper output.

Descriptors: EFTS; Automated teller machines; Pay by phone systems; Bank automation; Consumer attitudes; Growth

The PROMT Market Abstracts file was searched to discover whether new non-traditional competition has entered the marketplace because of the new technology. The two citations in Table 4 reveal that Publix Supermarkets and Beneficial Corporation both have established networks to deliver financial services in non-traditional settings.

Table 4 - PTS Promt

734008 Super News 82/02/15 P1,28

Publix Super Markets is installing the only large-scale, multiple-bank automatic teller machine (ATM) network owned by a supermarket. The system will be broadened from its initial ATM functions to conduct immediate electronic funds transfers from customer store accounts. The system will be put in at all 256 Publix stores starting in May 1982. Safeway Stores is contemplating the installation of a comparable system. The system initially will allow cash withdrawals, deposits and the ability to verify account balances. Publix will own and manage all equipment, and several banks will be involved in operating terminals. Publix' system will utilize NCR 1773 ATM machines formulated for the chain and an IBM Series 1 computer. Publix is putting in the system at a projected cost of $6 mil. It will receive revenue by a one-time sign-up fee and a charge per check for banks who want to enlist. Service will be free for customers, who will have the debit cards issued by their banks at the Publix terminals and at any outside, bank-owned ATM terminals.

*1USA *United States *5411100 *Supermarkets *361 *services R&D *Publix Super Markets

1USA United States 3573063 Bank Automation Systems 337 applications

1USA United States 6020005 Checking & Savings Services 245 distrib channels

•
•
•

733951 #Bus Week 81/07/06 P92,93

Beneficial Corp will open automated teller machines for immediate cash loans to customers with pre-approved lines of credit in Columbus, Ohio, in July 1981, and offer 2nd-mortgage loans at very low interest rates in California also in summer 1981. These increased financial services are hoped to move Beneficial away from the fringes of the money-lending business. The company will sell Spiegel, the mail order house, reportedly to a German company for $52 mil, freeing itself from $363 mil of $441 mil in debt that Spiegel had at end-1980. Beneficial's other nonfinancial ventures include Western Auto Supply and a smaller importer of electronics products. Analysts do not see Beneficial's offering of 2nd-mortgage loans as a panacea, as the market is still immature and consumers may use it to become overextended. Beneficial plans to use secured lending as an interim plan, believing the unsecured market will bounce back, and the company will improve its ability to lock in the spread between rates for its commercial paper and outstanding loans - a crucial step if the company is to compete against banks. In 1980, Beneficial won a full banking license for its British finance subsidiary, and already owns Peoples Bank & Trust (Delaware), a small bank used to issue Visa and MasterCard charge cards.

*1USA *United States *6020006 *Bank Computer Services *361 *services R&D *Beneficial

What is the scope of ATM networks within the traditional banking community? Citations from the New York Times in Table 5 indicate that

- Acquisitions and joint ventures are occurring more frequently as equipment providers move to take advantage of this market opportunity.
- The Regional Interchange Association soon will have 2,500 ATMs in 17 states.
- Philadelphia National Bank soon will have 85 participants in its ATM network.

Table 5 - New York Times Information Bank

1 OF 154 BW /JNL 1982- 5-17 : 34: 2 4/WGT 6/LIN
NO FICHE PHO/ILS 2143552/IDN
DOCUTEL CORP WILL FORM JOINT VENTURE WITH OLIVETTI CORP CALLED DOCUTEL/OLIVETTI CORP BY ACQUIRING OLIVETTI'S US SUBSIDIARY; TRANSACTION WILL ENABLE OLIVETTI TO FOCUS ON SELLING ITS AUTOMATED OFFICE EQUIPMENT TO BANKS, WHILE BROADENING DOCUTEL'S BANK PRODUCT LINE AND INCREASING EUROPEAN SALES OF ITS AUTOMATED TELLER MACHINES; PHOTO (M)

•
•
•

3 OF 154 AB /JNL 1982- 5-12 : 19: 1 4/WGT 6/LIN
NO FICHE 2150962/IDN
KEYCOM ELECTRONIC PUBLISHING, WHICH IS JOINT VENTURE OF CENTRAL TELEPHONE & UTILITIES CORP, HONEYWELL INC AND FIELD ENTERPRISES INC, ANNOUNCES IT WILL BEGIN OFFERING VIDEOTEX HOME BANKING, ELECTRONIC SHOPPING AND OTHER SERVICES BY MID-'83; ABOUT 25,000 CHICAGO-AREA CUSTOMERS ARE EXPECTED TO SUBSCRIBE TO SERVICE WITHIN FIRST YEAR (M)

•
•
•

8 OF 154 AB /JNL 1982- 4-28 : 12: 1 4/WGT 4/LIN
NO FICHE 2147317/IDN
MONEY CARD OF KANSAS INC, 45-BANK MEMBERSHIP AUTOMATED TELLER MACHINE (ATM) NETWORK BASED IN WICHITA (KAN), BECOMES 10TH NETWORK TO JOIN REGIONAL INTERCHANGE ASSN, WHICH WILL SOON HAVE 2,500 ATM'S OPERATING IN AT LEAST 17 STATES (M)

•
•
•

10 OF 154 AB /JNL 1982-4-26 : 3: 3 4/WGT 7/LIN
NO FICHE 2146569/IDN
PHILADELPHIA NATIONAL BANK ANNOUNCES NUMBER OF PARTICIPANTS IN ITS SHARED AUTOMATED TELLER MACHINE (ATM) NETWORK, KNOWN AS MONEY ACCESS CENTER, WILL RISE TO 85 AS RESULT OF RECENTLY-CONCLUDED AGREEMENTS, WITH 19 INSTITUTIONS BEING IN NJ AND 66 IN EASTERN PENNSYLVANIA; INDICATES TOTAL NUMBER OF TELLER MACHINES, OF WHICH THERE WERE 244 AT END OF MARCH '82, WILL INCREASE TO 400, INCLUDING 100 IN NJ, BY SEPT '82 (M)

What if in-depth information about specific competitors or suppliers is needed? You may wish to follow up, for example, the lead we obtained from the New York Times on Docutel Corporation. As a publicly held company, Docutel's financial filings with the Securities and Exchange Commission are available in the Disclosure file. Table 6 has five pages of information on the company. In addition to standard financial data, the complete management discussion of progress and problems is included. (See page 13 for Table 6.)

How Online Access Works

Online access can be a valuable tool for product development professionals. One question you may ask in considering its use in your organization is "How much does it cost?" By and large, the cost is low. The six tables presented in this paper were prepared for less than $200, excluding my time in formulating the searches and reading the material.

Another question is "How do I do it?" The best answer is, "Don't do it yourself." Commercial firms such as FIND/SVP in New York City will conduct online searches for you, or you may have the resources within your organization's library or information center. You, yourself, can search, but you will have to invest time in mastering system protocols and databases.

All you actually need is a communicating terminal - a device with a keyboard and printer that allows you to talk over the telephone to electronic databases - and a password. Texas Instruments makes a popular portable terminal, which costs under $2500. You can obtain a password by contacting the organizations listed in Exhibit I.

How Some Companies Use Online

Companies which understand the value of information in product development are using online access to enhance new product success rates. Let me summarize briefly how two such "information sensitive" companies are applying online capabilities.

The financial services industry, as you know, is undergoing its own version of future shock. Banks and insurance companies, long used to tradi-

tional rivalries in a stable marketplace, now must compete with Sears, American Express and Merrill Lynch, among others. Product development has gained new significance.

Fact-finding and Interpretation

One medium-size financial services firm, with revenues of $250 million, has established a three-part organizational structure to ensure that people involved in new product development get the information necessary to make informed decisions.

The information specialist in the firm's library is the primary resource for a broad range of information. Printed materials, although still prime sources, no longer are the first line of attack. Instead, information specialists use online access to collect and organize external information.

This targeted but still relatively raw data goes, as a second step, to eight product analysts who are responsible for interpreting, manipulating and presenting the data in the form most useful to product development specialists. The analysts, who have diverse academic and technical backgrounds, often prepare position papers or memoranda covering the data they have analyzed and interpreted.

Third in the process are the individuals responsible for product development – those who apply the information. When they ask specific questions, computer-generated data can be provided directly to them. Broader questions are answered through the two-step gathering and analysis process.

This organizational structure ensures that information is made available to those who need it – when they need it. Use of online access for information gathering widens the range of readily available information and speeds acquisition of needed data.

Keeping Current

At a large chemical company, on the other hand, a product development team uses online business databases for current awareness. Each member of the group has key areas of responsibility. Monthly, the current literature entering online databases in these key areas is searched by computer. Team members receive summaries of the latest articles written worldwide about their specific topics of interest. This allows them to keep up-to-date on their reading without personally poring through hundreds of journals each month.

Today, thousands of organizations rely upon online access to stimulate and support product development. Through online access, they obtain relevant information at each stage of the process.

- In ideation, new ideas spring from knowing what has been done and what others are trying.
- In screening, hard facts and figures help in analyzing the feasibility of new ideas.
- In development, the data reveal who makes what component and

what individuals are involved in complementary work.

- In testing, the data form a baseline from which other proprietary tests can be designed.
- In commercialization, case studies of winners and losers suggest ways to increase the likelihood of achieving market success.

The Upside of Online Access

The six databases used for illustration are only a few of the hundreds available through online access. By searching appropriate files, relevant information can be gathered at each product development stage. In addition,

- The range of data which can be consulted is expanded. The product development team can focus on a large range of data but select only what is relevant. Time is used more productively.
- Blind spots are highlighted. Informed professionals can see where the ground has been well worn and pinpoint areas where research is necessary. Thus, energy goes toward solving meaningful problems, not reinventing the wheel.
- Outside experts are identified. References to consulting and market research firms which specialize in the area under consideration spotlight external sources to support the product development team.

In summary, risk is reduced by having the right information. The product development team enters the difficult development process knowing it will make decisions based on all available data, not just hunches.

Challenges

The advantages of online access are obvious. The challenge is to obtain access to the right files when the information is needed. In many organizations today, getting information is not as easy as it should be. In our research, we have learned that four major barriers exist:

- The information specialist or librarian who does the searching may not have the resources to respond to requests for information in a timely, thorough way. Consequently, access to electronic files may be subtly discouraged.
- Managers and product development professionals frequently do not know about electronic files or how to integrate the information into their work processes.
- When managers do know about online access, it may be difficult for them to formulate search questions in a manner that translates their real needs to information specialists who actually conduct the searches.
- Few systems are in place to make searching easy for people with only a passing familiarity with terminals, commands and online access systems.

Outlook

Progress is being made. More and more organizations, such as the two I described, are committing resources to make information available whenever and wherever it is needed.

Product development professionals fresh from business schools have had exposure to online information. They often insist upon similar resources at their workplace. Senior managers, who know the deficiencies of traditional ways of collecting information, are becoming increasingly aware of new ways to use information to get more winners to market.

Finally, such timesharing systems as Dialcom and Dialog are developing more "user-friendly" systems to encourage direct use by product development and other professionals.

Success in product development depends on getting information into the hands of the individuals who can produce winners. Online access is an important means to this end.

Table

Table 6 - Disclosure II

0002231
DOCUTEL CORP
DISCLOSURE CO NO: D712000000
CROSS REFERENCE: NA
106 DECKER DRIVE
IRVING TX 75062
TELEPHONE: 214-258-8610
INCORPORATION: DE
EXCHANGE: OTH
TICKER SYMBOL: DCTC
FORTUNE NO: NA
CUSIP NO: 0002561652
D-U-N-S NO: 05-312-0572
SIC CODES: 3699; 2253
PRIMARY SIC CODE: 3699
DESCRIPTION OF BUSINESS: ENGAGED IN MANUFACTURE AND SALE, AND PURCHASE, ASSEMBLY AND SALE OF AUTOMATED AND TELLER OPERATED FINANCIAL TRANSACTIONS SYSTEMS, RESPECTIVELY, AND MANUFACTURE AND SALE OF KNIT SWEATERS AND SHIRTS (KNITWEAR).

CURRENT OUTSTANDING SHARES: 4,544,399
(SOURCE: 10-K 03/22/82)
SHARES HELD BY OFF & DOO: NA
NUMBER OF SHAREHOLDERS: 3,430
NUMBER OF EMPLOYEES: 1,067
FISCAL YEAR END: 12/31

AUDITOR CHANGE: NA
AUDITOR: ARTHUR YOUNG & COMPANY
AUDITOR'S REPORT: UNQUALIFIED

FISCAL YEAR ENDING	12/31/81	12/31/80
	ASSETS (000S)	
CASH	22,575	7,297
MRKTABLE SECURITIES	NA	NA
RECEIVABLES	23,010	8,261
INVENTORIES	16,480	17,452
RAW MATERIALS	NA	NA
WORK IN PROGRESS	NA	NA
FINISHED GOODS	NA	NA
NOTES RECEIVABLE	NA	NA
OTHER CURRENT ASSETS	313	395
TOTAL CURRENT ASSETS	62,378	33,405
PROP, PLANT & EQUIP	11,989	6,022
ACCUMULATED DEP	2,273	1,652
NET PROP & EQUIP	9,716	4,370
INVEST & ADV TO SUBS	NA	NA
OTH NON-CUR ASSETS	955	NA
DEFERRED CHARGES	NA	NA
INTANGIBLES	NA	NA
DEPOSITS & OTH ASSET	NA	613
TOTAL ASSETS	73,049	38,388

	LIABILITIES (000S)		
NOTES PAYABLE	NA	NA	
ACCOUNTS PAYABLE	6,544	2,877	
CUR LONG TERM DEBT	NA	720	
CUR PORT CAP LEASES	NA	NA	
ACCRUED EXPENSES	1,951	1,867	
INCOME TAXES	2,887	1,603	
OTHER CURRENT LIAB	3,577	901	
TOTAL CURRENT LIAB	14,959	7,968	
MORTGAGES	NA	NA	
DEFERRED CHARGES/INC	432	294	
CONVERTIBLE DEBT	NA	NA	
LONG TERM DEBT	NA	3,420	
NON-CUR CAP LEASES	NA	NA	
OTHER LONG TERM LIAB	NA	NA	
TOTAL LIABILITIES	15,391	11,682	
MINORITY INT (LIAB)	NA	NA	
PREFERRED STOCK	NA	NA	
COMMON STOCK NET	449	275	
CAPITAL SURPLUS	47,240	23,428	
RETAINED EARNINGS	9,969	3,003	
TREASURY STOCK	NA	NA	
OTHER LIABILITIES	NA	NA	
SHAREHOLDER'S EQUITY	57,658	26,706	
TOT LIAB & NET WORTH	73,049	38,388	
FISCAL YEAR ENDING	12/31/81	12/31/80	12/31/79
	INCOME STATEMENT (000S)		
NET SALES	77,031	53,278	34,880
COST OF GOODS	47,461	34,944	23,682
GROSS PROFIT	29,570	18,334	11,198
R & D EXPENDITURES	4,093	3,069	1,396
SELL GEN & ADMIN EXP	14,872	8,383	5,764
INC BEF DEP & AMORT	10,605	6,882	4,038
DEPRECIATION & AMORT	NA	NA	NA
NON-OPERATING INC	1,895	281	727
INTEREST EXPENSE	405	646	416
INCOME BEFORE TAX	12,095	6,517	4,349
PROV FOR INC TAXES	5,129	2,691	1,991
MINORITY INT (INC)	NA	NA	NA
INVEST GAINS/LOSSES	NA	NA	NA
OTHER INCOME	NA	NA	NA
NET INC BEF EX ITEMS	6,966	3,826	2,358
EX ITEMS & DISC OPS	NA	890	1,889
NET INCOME	6,966	4,716	4,247
OUTSTANDING SHARES	4,486,689	NA	NA
QUARTERLY REPORT FOR	NA	06/30/81	09/30/81
	INCOME STATEMENT (000S)		
NET SALES	NA	16,293	21,705
COST OF GOODS	NA	9,768	13,746
GROSS PROFIT	NA	6,525	7,959
R & D EXPENDITURES	NA	1,053	882
SELL GEN & ADMIN EXP	NA	3,263	4,521
INC BEF DEP & AMORT	NA	2,209	2,556
DEPRECIATION & AMORT	NA	NA	NA
NON-OPERATING INC	NA	238	725

INTEREST EXPENSE	NA	189	NA
INCOME BEFORE TAX	NA	2,258	3,281
PROV FOR INC TAXES	NA	1,039	1,224
MINORITY INT (INC)	NA	NA	NA
INVEST GAINS/LOSSES	NA	NA	NA
OTHER INCOME	NA	NA	NA
NET INC BEF EX ITEMS	NA	1,219	2,057
EX ITEMS & DISC OPS	NA	NA	NA
NET INCOME	NA	1,219	2,057
OUTSTANDING SHARES	NA	4,483,728	4,483,978

SEGMENT DATA	(12/31/81)	SALES (000S)	OP INCOME
FINANCIAL SYSTEMS		55,415	8,243
KNITWEAR		21,616	4,954

FIVE YEAR SUMMARY

YEAR	SALES (000S)	NET INCOME	EPS
1981	77,031	6,966	1.69
1980	53,278	4,716	1.39
1979	34,880	4,247	1.33
1978	33,953	2,876	0.90
1977	25,315	(8,256)	(2.580)

COMMENTS:
FINANCIAL STATEMENTS INCORPORATED BY REFERENCE TO ANNUAL REPORT;

OFFICERS (NAME/ AGE/ TITLE/ REMUNERATION):
MEREDITH, B. J./ 49/ CHAIRMAN OF THE BOARD,
CHIEF EXECUTIVE OFFICER/ NA
SATERSON, GEORGE/ 56/ PRESIDENT,
CHIEF OPERATING OFFICER/ NA
START, N. A./ 47/ EXECUTIVE VICE PRESIDENT/ NA
MARLOW, FRANK R./ 43/ VICE PRESIDENT/ NA
JOHNSON, VALDA/ 43/ VICE PRESIDENT, TREASURER/ NA
IRION, GERALD W./ 40/ VICE PRESIDENT/ NA
TURNER, B. J./ 38/ VICE PRESIDENT/ NA
GENTRY, WILLIAM W./ 56/ VICE PRESIDENT/ NA
LORENCE, JAMES A./ 36/ VICE PRESIDENT/ NA
HOLCOMB, H. L., JR./ 47/ SUBSIDIARY OFFICER/ NA
HOLCOMB, A. S./ 45/ SUBSIDIARY OFFICER/ NA

DIRECTORS/NOMINEES (NAME/ AGE/ TITLE/ REMUNERATION):
PROXY: NA
NA

OWNERSHIP:

TYPE	DATE(Q,M)	OWNERS	CHANGE (000S)	HELD	%OWN
INVEST. COS.	03/31/82(Q)	7	13	202	4.50
INSTITUTIONS	03/31/82(Q)	23	175	1,045	23.30
5% OWNERS	04/30/82(M)	1	NA	906	20.19
INSIDERS	03/31/82(M)	11	NA	1,418	31.63

SUBSIDIARIES:
NA

EXHIBITS:
CERTIFICATE OF INCORPORATION AND BY-LAWS, INC. BY REF. TO 10-K FOR 1980
COMMON STOCK CERTIFICATE, INC. BY REF. TO 10-K FOR 1980
LOAN AGREEMENT, 04-24-80, AMONG DOCUTEL CORP., PINE STATE AND ALLIED BANK OF TEXAS AND NORTH SIDE BANK, INC. BY REF. TO 10-K FOR 1980
EMPLOYMENT AGREEMENT, 09-19-80, WITH B. J. MEREDITH, INC. BY REF. TO 10-K FOR 1980
DEFERRED COMPENSATION AGREEMENT, 12-30-80, WITH B. J. MEREDITH, INC. BY REF. TO 10-K FOR 1980
INCENTIVE BONUS PLAN, EMPLOYEES PROFIT SHARING PLAN, OFFICER PERKS PACKAGE, AND MEDICAL & DENTAL EXPENSE REIMBURSEMENT PROGRAM, INC. BY REF. TO 10-K FOR 1980
1967, 1972 AND 1975 QUALIFIED STOCK OPTION PLANS, INC. BY REF. TO REGIS. NO. 2-56874
CERTAIN RESOLUTIONS ADOPTED 10-08-73 AND 10-30-75 RESPECTIVELY, ESTABLISHING 1973 AND 1975 NON-QUALIFIED STOCK OPTION PLANS, INC. BY REF. TO REGIS. NO. 2-56874
CERTAIN RESOLUTIONS ADOPTED 01-25-79, AMENDING 1975 NON-QUALIFIED STOCK OPTION PLAN, INC. BY REF. TO REGIS. NO. 2-64523
CERTAIN RESOLUTIONS ADOPTED 10-29-81, AMENDING 1967, 1972 AND 1975 QUALIFIED STOCK OPTION PLANS AND 1973 AND 1975 NON-QUALIFIED STOCK OPTION PLANS
1981 STOCK OPTION PLAN
AGREEMENT USED TO GRANT STOCK OPTIONS UNDER 1967, 1972 AND 1975 QUALIFIED STOCK OPTION PLANS, AND 1973 AND 1975 NON-QUALIFIED STOCK OPTION PLANS, INC. BY REF. TO REGIS. NO. 2-56874
PINE STATE KNITWEAR CO. PENSION PLAN, INC. BY REF. TO 10-K FOR 1980
AGREEMENT, 12-10-80, AMONG OLIVETTI CORP., OLIVETTI REALTY N. V. AND DOCUTEL CORP., AS AMENDED 03-05-81, INC. BY REF. TO 10-K FOR 1980
AGREEMENT, 06-09-78, AS AMENDED, BETWEEN DOCUTEL CORP. AND TRW, INC., INC. BY REF. TO REGIS. NO. 2-72565
LOAN AGREEMENT, 07-01-81, AS AMENDED BETWEEN DOCUTEL CORP. AND OLIVETTI ADVANCED TECHNOLOGY CENTER, INC., INC. BY REF. TO REGIS. NO. 2-72565
COMPUTATION OF INCOME PER SHARE
ANNUAL REPORT TO SHAREHOLDERS FOR 1981
LIST OF SUBSIDIARIES, INC. BY REF. TO 10-K FOR 1980

OTHER CORPORATE EVENTS:
ADVANCE OF $2 MILLION FROM OLIVETTI ADVANCED TECHNOLOGY CENTER, INC. FOR DEVELOPMENT OF NEW AUTOMATED TELLER MACHINE UNDER AGREEMENT, 7/1/81(10-Q9/30/81)

MANAGEMENT DISCUSSION:
(FROM ANNUAL REPORT TO SHAREHOLDERS 1980) FINANCIAL CONDITION SINCE THE BEGINNING OF 1978, DOCUTEL'S FINANCIAL CONDITION HAS STRENGTHENED CONSIDERABLY. THIS

CAN BE SEEN FROM THE TABLE OF SELECTED FINANCIAL DATA FOLLOWING THE REVIEW. THE COMPANY'S TOTAL ASSETS HAVE GROWN AT A 30 PERCENT COMPOUND ANNUAL RATE, WHILE WORKING CAPITAL OVER THE SAME PERIOD HAS RISEN FROM $10 MILLION TO MORE THAN $25 MILLION. OUR CURRENT RATIO HAS IMPROVED TO 4.2 TO 1.0, FROM 2.8 TO 1.0. THE COMPANY'S OPERATING RESULTS IN GENERAL SINCE 1978 REFLECT A PLANNED PROGRAM UNDERTAKEN BY MANAGEMENT. TO APPRECIATE THE CHANGES THAT HAVE OCCURRED IN OUR FINANCIAL CONDITION, IT IS FIRST NECESSARY TO CONSIDER THAT BASIC PROGRAM, WHICH IN FACT BEGAN IN 1977 AND CONTINUES TODAY. SEVERAL ACTIONS WERE TAKEN: 1. DOCUTEL DETERMINED THAT ITS LONG TERM COMPETITIVE VIABILITY AS A MANUFACTURER OF AUTOMATED TELLER MACHINES (ATMS) REQUIRED DEVELOPMENT OF A NEW GENERATION PRODUCT. THIS ATM WOULD ADDRESS SPECIFIC CRITERIA WHICH HAD BECOME APPARENT DURING OUR PRIOR SIX YEARS' EXPERIENCE IN THE MARKET, BUT WHICH OUR EXISTING TOTAL TELLER 300 MODEL WAS NOT DESIGNED TO MEET – SPECIFICALLY MAXIMUM PERFORMANCE RELIABILITY AT MOUNTING TRANSACTION VOLUMES. THE RESULT WAS INTRODUCTION OF OUR TOTAL TELLER 2300 SYSTEM IN 1978. 2. THE COMPANY COULD NOT ANTICIPATE SUSTAINING ITS GROWTH IN MANUFACTURING AND MARKETING ATM PRODUCTS, AS WELL AS EFFICIENTLY MAINTAINING THOSE PRODUCTS FOR CUSTOMERS ACROSS THE NATION. INDEED, EVEN THOUGH MAINTENANCE CONTRIBUTED $8.8 MILLION TO 1978 CONSOLIDATED REVENUES, IT OPERATED AT A LOSS AND PROSPECTS FOR FUTURE PROFITABILITY WERE REMOTE. WE CHOSE TO EMPHASIZE MANUFACTURING AND MARKETING, AND SO TRANSFERRED OUR MAINTENANCE OPERATIONS IN MID-1978 TO THE CUSTOMER SERVICE DIVISION OF TRW, INC. A RECOGNIZED LEADER IN THE FIELD. 3. SIMULTANEOUS WITH DEVELOPMENT OF A NEW ATM WAS THE NECESSARY WRITE-DOWN OF COMPANY ASSETS RELATED, IN PARTICULAR, TO EQUIPMENT AND MAINTENANCE SERVICE. THIS CONTRIBUTED TO DOCUTEL'S NET LOSS OF $8.3 MILLION FOR 1977 AND, SUBSEQUENTLY, IN THE EXTRAORDINARY CREDIT WHICH WAS FULLY REALIZED IN 1980. 4. OUR PLANNED NEW ATM DEVELOPMENT COSTS AND RECOGNITION THAT, FOR AT LEAST THE DEVELOPMENT PERIOD, DOCUTEL WOULD REQUIRE ADDITIONAL REVENUE SOURCES PROMPTED PURSUIT OF A SUITABLE ACQUISITION CANDIDATE. IN EARLY 1978 PINE STATE KNITWEAR WAS PURCHASED, AND ITS OWN REVENUE AND EARNINGS GROWTH SINCE THAT TIME HAS CONTRIBUTED SIGNIFICANTLY TO DOCUTEL. THE PROGRAM HAS PROGRESSED AS PLANNED. DOCUTEL'S TOTAL TELLER 2300 SYSTEMS HAVE BECOME AN INCREASINGLY SUBSTANTIAL CONTRIBUTOR TO REVENUE. THESE MACHINES WERE DEVELOPED IN TWO FORMS – AS A COMPLETE NEW ATM AND AS A RETROFIT MODEL, COSTING LESS THAN THE FULL MACHINE AND CONSEQUENTLY YIELDING LOWER MARGINS BUT SERVING NONETHELESS TO JPGRADE A CUSTOMERS' TOTAL TELLER 300 MACHINE TO THE NEW GENERATION LEVEL. THIS STRATEGY WAS INTENDED TO COUNTER THE GROWING PRESSURE FROM COMPETITORS BEING DIRECTED AT EXISTING DOCUTEL CUSTOMERS, AND IT HAS PROVEN SOUND. INITIALLY, SERIES 2300 PROD-

UCT SALES WERE LARGELY RETROFIT MODELS. IN 1980 A SHIFT IN SALES TOOK PLACE AND DEMAND FOR FULL MACHINES APPEARS TO BE CLIMBING, AS IT IS FOR A VARIETY OF NEW SOFTWARE FEATURES DEVELOPED LAST YEAR. DOCUTEL'S PROFIT MARGINS HAVE BENEFITED ACCORDINGLY. CONSISTENT WITH OUR OBJECTIVE TO RETAIN AND SUBSEQUENTLY EXPAND THE BASE OF CUSTOMERS, THE COMPANY UNDERTOOK SIGNIFICANT EXPANSION DURING 1980 IN ITS MARKETING, ENGINEERING AND MANUFACTURING, OPERATIONS. WE ACCELERATED BOTH PRODUCTION AND SHIPMENT LEVELS OVER 1979 LEVELS IN ORDER TO MEET MARKET DEMAND.

Appendix

EXHIBIT 1: SELECTED ONLINE SYSTEMS

System Name	Principal Focus	Availability by Broad Geographic Region	Address
BRS	Initially marketed to the biomedical community; increasingly loading business files	Principally North America	Bibliographic Retrieval Services 1200 Route 7 Latham, NY 12110 Phone: 518/783-1161
DATA-STAR	A recent entry, nearly two dozen files, comparatively heavily business oriented	Principally Europe, including Russia	DATA-STAR 199 High Street Orpington, Kent BR6 0PF UK Phone: 0689 38488 Telex: 898239
Dialcom, Inc.	Electronic mail; automated office systems; business, financial, and statistical packages; and textual files	Worldwide	Dialcom, Inc. 1109 Spring Street Silver Spring, MD 20910 Phone: 301/588-1572
DIALOG	A true supermarket, offering over 150 databases covering most business and technical disciplines	Worldwide, over 50 countries	DIALOG Information Services, Inc. 3460 Hillview Palo Alto, CA 94304 Phone: 415/858-2700 Telex: 334499
Dow Jones	Owned by the company which publishes **The Wall Street Journal,** makes available several financial/stock databases	Principally North America	Dow Jones & Company, Inc. P.O. Box 300 Princeton, NJ 08540 Phone: 609/452-2000 Telex: 510 685-2336
ESA-IRS	A unit of the European Space Agency; orientation is scientific and technical	Principally Europe	ESA-IRS 8-10 Rue Mario Nikis F-75738 Paris Cedex 15, France Phone: 942-2401 (Frascati, Italy) Telex: 610637 (Frascati, Italy)
Mead Data Central	Made its mark with full text U.S. legal statutes and case law; now includes newspapers and some business databases	North America and Europe	Mead Data Central 200 Park Avenue New York, NY 10080 Phone: 212/883-8560
New York Times Information Service	Initial database covered **The New York Times** and selected U.S. and foreign news publications; recently added business databases	North America and Europe	New York Times Information Service, Inc. 1719-A Route 10 Parsippany, NJ 07054 Phone: 201/539-5850 Telex: 136390
SDC	Strongest in petroleum industry and life sciences, offers some business files	Worldwide	SDC Search Service 2500 Colorado Ave. Santa Monica, CA 90406 Phone: 213/820-4111, x. 6194 Telex: 652358
Service Bureau Company	Originally a unit of IBM, now owned by Control Data, concentrates on numeric business databases	Worldwide	The Service Bureau Company Time Sharing Services 500 W. Putnam Ave. Greenwich, CT 06830 Phone: 203/622-2000 Telex: 710 579-2978

EXHIBIT 2: SELECTED ONLINE DATABASES

File Name	Subject	Number of Entries	Source	Systems
ABI/INFORM	Abstracts of business and management information	160,000	550 business periodicals	BRS, DATA-STAR, DIALOG, ESA-IRS, SDC
Disclosure II	Financial and statistical information for over 8,000 publicly-owned U.S. companies	8,500	File reports of the U.S. Securities and Exchange Commission	DIALOG, Dow Jones, New York Times Information Service, Service Bureau Company
INSPEC	Abstracts in physics, electrotechnology, computers and control	1,976,000	Journals, conference proceedings, reports, books, patents, theses	DIALOG; SDC; BRS; CAN-OLE; DATA-STAR; ESA-Quest; INKA; Search-J (Japan)
New York Times Information Bank	Abstracts of general news	2,200,000	Newspapers and magazines	New York Times Information Service
NEXIS	Full text of general and business news	Unknown	Newspapers, magazines, wire services, newsletters	Mead Data Central
NTIS (National Technical Information Service)	Public distributor of government-sponsored research, development and engineering reports	900,000	Reports from 300 federal government agencies in US	DIALOG; SDC; BRS
PTS PROMT	Indexes information affecting markets for products	500,000	Journals, studies and prospectuses	DIALOG; BRS; DATA-STAR
PTS U.S. Time Series	Statistical projections for industries, and demographics, economics and national income	33,000	Basebook records Composites records	DIALOG, BRS, DATA-STAR
Standard & Poor's News	Full text of financial news related to more than 10,000 leading corporations	176,000	Wire services, company news releases, company reports, newspapers	DIALOG

Data Courier, the database company, specializes in the creation, development, production, marketing and electronic distribution of business and management information. Its databases are used by many of the world's largest and most successful organizations in business, education and government.

ABI/INFORM®, created in 1971, was the first online information source for business and management decision makers. Available worldwide, the file is designed to be comprehensive and current. Abstracts from more than 500 journals capture the best of business thinking.

PNI™ is the authority for quick and easy access to pharmaceuticals, medical devices and health care news. The major U.S., European and Japanese newsletters in the field are indexed in this file.

For more information about Data Courier products and services, training activities and customer services, call, write or telex.

DATA COURIER INC
620 SOUTH FIFTH STREET
LOUISVILLE KENTUCKY 40202
502/582-4111 800/626-2823
TELEX 204235

DATA COURIER®